

## Erratum to: Environmental assessment of sardine (*Sardina pilchardus*) purse seine fishery in Portugal with LCA methodology including biological impact categories

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**Erratum to: Int J Life Cycle Assess**  
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**Page 4 of online version** (changes are in **boldface**)

Old:

The FUI per sardine landed was neither statistically different between years nor between vessel size categories (t test,  $p=0.35$ ). Average values for the different years assessed varied between 0.9 (SD=0.02) and 0.14 (SD=0.03)l/kg and the fuel consumption use was highest in 2008, coinciding with the year for the largest landings of large purse seiners (Fig. 2).

New:

The FUI per sardine landed was neither statistically different between years nor between vessel size categories (t test,  $p=0.35$ ). Average values for the different years assessed varied between **0.09** (SD=0.02) and 0.14 (SD=0.03)l/kg and the fuel consumption use was highest in 2008, coinciding with the year for the largest landings of large purse seiners (Fig. 2).

Old:

The average global warming potential (GWP) for the overall fleet was 0.36 kg CO<sub>2</sub> eq. The GWP for the

two size vessel categories were almost equal: 0.35 for larger and 0.36 kg.CO<sub>2</sub> eq for smaller boats. The same trend happens with the other impact categories due to the dominance of fuel combustion and production. For the categories EP, AP, and ODP the results for the overall fleet were 0.0024 kg SO<sub>2</sub> eq;0.0005 kg PO<sub>4</sub> eq; and 0.48 kg CFC-11 eq, respectively.

New:

The average global warming potential (GWP) for the overall fleet was 0.36 kg CO<sub>2</sub> eq. The GWP for the two size vessel categories were almost equal: 0.35 for larger and 0.36 kg.CO<sub>2</sub> eq for smaller boats. The same trend happens with the other impact categories due to the dominance of fuel combustion and production. For the categories EP, AP, and ODP the results for the overall fleet were 0.0024 kg SO<sub>2</sub> eq;0.0005 kg PO<sub>4</sub> eq; and **4.77E-08** kg CFC-11 eq, respectively.

**Page 8 on online version: Table 2** (changes are in **boldface**)

**Table 2** Data from JRC for purse seine fishery in Portugal

Size	2008	2009	2010
Fuel per landings (l/kg)			
Small	0.09	0.13	0.15
Large	0.11	0.12	0.13
Overall	0.11	0.12	0.13
Labour per landings (crew/tonne)			
Small	<b>0.13</b>	<b>0.11</b>	<b>0.09</b>
Large	<b>0.02</b>	<b>0.02</b>	<b>0.02</b>
Overall	<b>0.03</b>	<b>0.03</b>	<b>0.03</b>
Value per landings (EUR/tonne)			
Small	<b>1.20</b>	<b>1.07</b>	<b>0.92</b>
Large	<b>0.63</b>	<b>0.70</b>	<b>0.14</b>
Overall	<b>0.66</b>	<b>0.74</b>	<b>0.60</b>

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**Online Resource** (changes are in **boldface**)

**Old: Table 1** Inventory for fish landed in Portugal by purse seiners. Values per FU (standard deviation) of fish landed for the overall fleet and for different vessel size categories in the 2006–2011 period. Data is referred to the selected FU in the study (1 kg of landed fish).

Inputs	Unit	2006	2007	2008	2009	2010	2011
Diesel	l	0.03 (0,09)	0.00 (0,11)	0.02 (0,14)	0.03 (0,12)	0.03 (0,09)	0.02 (0,10)
Ice	kg	0.02 (0,11)	0.02 (0,08)	0.04 (0,12)	0.05 (0,12)	0.05 (0,15)	0.05 (0,18)
Marine lubricant oil	l	0.00 (0,00)	0.00 (0,00)	0.01 (0,01)	0.02 (0,01)	0.01 (0,01)	0.01 (0,00)
<b>Outputs</b>							
Sardine	kg	0.70 (0,91)	0.89 (0,89)	0.90 (0,91)	0.88 (0,94)	0.95 (0,89)	0.93 (0,85)
Other species	kg	0.30 (0,09)	0.11 (0,11)	0.10 (0,09)	0.12 (0,06)	0.05 (0,11)	0.07 (0,15)
CO2	kg	0.292	0.363	0.466	0.398	0.301	0.318
SO2	g	0.430	0.523	0.662	0.569	0.438	0.461
NOx	kg	0.003	0.004	0.005	0.004	0.003	0.003
<b>Impact assessment</b>							
GWP	kg CO2 eq	0.292	0.363	0.466	0.398	0.301	0.318
EP	kg PO4 eq	0.000	0.001	0.001	0.001	0.000	0.000
AP	kg SO2 eq	0.002	0.002	0.003	0.003	0.002	0.002
ODP	kg CFC-11 eq	0.385	0.475	0.604	0.518	0.397	0.418
E	MJ	4.330	5.390	6.910	5.900	4.470	4.720

**New: Table 1** Inventory for fish landed in Portugal by purse seiners. Values per FU (standard deviation) of fish landed for the overall fleet and for different vessel size categories in the 2006–2011 period. Data is referred to the selected FU in the study (1 kg of landed fish).

Inputs	Unit	2006	2007	2008	2009	2010	2011
Diesel	l	0.03 (0,09)	0.00 (0,11)	0.02 (0,14)	0.03 (0,12)	0.03 (0,09)	0.02 (0,10)
Ice	kg	0.02 (0,11)	0.02 (0,08)	0.04 (0,12)	0.05 (0,12)	0.05 (0,15)	0.05 (0,18)
Marine lubricant oil	l	0.00 (0,00)	0.00 (0,00)	0.01 (0,01)	0.02 (0,01)	0.01 (0,01)	0.01 (0,00)
<b>Outputs</b>							
Sardine	kg	0.70 (0,91)	0.89 (0,89)	0.90 (0,91)	0.88 (0,94)	0.95 (0,89)	0.93 (0,85)
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NOx	kg	0.003	0.004	0.005	0.004	0.003	0.003
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EP	kg PO4 eq	0.000	0.001	0.001	0.001	0.000	0.000
AP	kg SO2 eq	0.002	0.002	0.003	0.003	0.002	0.002
ODP	kg CFC-11 eq	<b>3.86E-08</b>	<b>4.75E-08</b>	<b>6.04E-08</b>	<b>5.18E-08</b>	<b>3.97E-08</b>	<b>4.18E-08</b>
E	MJ	4.330	5.390	6.910	5.900	4.470	4.720